

in the nasal tubes just mentioned), and, as already hinted, they may prove to be merely the dark and light extremes of a species subject to dichromatism. If really distinct from each other, as both unmistakably are from *Æ. fisheri*, the three birds furnish a remarkable case, viz. : that of three closely related species, the habits and distribution of which are almost wholly unknown, and each of which is at present represented by only a single specimen. To the species just described it is not even possible to ascribe a provisional habitat, its occurrence in the interior of New York being obviously accidental.

RECENT LITERATURE.

The A. O. U. Code and Check-List of North American Birds.* Few scientific books of recent years have been awaited with as much interest as this 'Check-List' of birds and its accompanying 'Code.' To those interested in systematic ornithology, the work is, of course, of the highest importance, as giving an authoritative settlement—so far as authority can settle anything in science—of the much-vexed questions in bird nomenclature. But to the systematic workers in other departments of Zoölogy, and even to botanists, its interest is scarcely less great.

For we who work in other fields are very willing to recognize the fact that the great questions which underlie all systematic nomenclature must be first met and settled by the ornithologists. The abundance and attractiveness of birds and the ease with which they may be collected and studied have combined to render ornithology one of the best cultivated of all departments of science. In spite of a good deal of amateur work, which, in one way or another, gets published, it is, I think, not too much to say that in all the various matters which make up the ground-work of systematic science—in the discrimination of species and varieties, in the study of the relations of these groups to each other, and to their environment—American ornithology stands at the front of systematic science.

We may, therefore, in the various stages through which our ornithology has passed, or is passing, read the future history of our own branches of science. In many regards, the ornithologists are fighting our battles for us, and we may take advantage of the results won by their efforts. Thus the discussions of climatic influences on the characters of species, first serious-

* The Code of Nomenclature | and | Check-List | of | North American Birds | Adopted by the American Ornithologists' Union | being the Report of the Committee of the | Union on Classification and | Nomenclature | — | Zoölogical Nomenclature is a means, not an end, of Zoölogical Science | — | New York | American Ornithologists' Union | 1886. 8vo, pp. viii + 392.

ly taken up by Mr. J. A. Allen in 1871, and which has culminated in the trinomial system of nomenclature, has relieved workers in other fields from the need of urging the same considerations. So soon as our facts are sufficient for us to use the trinomial system, we shall find it ready for our use, perfected in all its details.

Again, the absolute importance of the law of priority has impressed itself on the ornithologists, in spite of themselves, for in past times the ornithologists have been among those who have most sinned against this same law. The efforts of Cassin, Coues, Stejneger, and others to ascertain the facts in regard to old names have shown that no middle ground exists between law and chaos in matters of nomenclature.

It is true, as the authors of the 'Code' have insisted, that "nomenclature is a means and not an end in science." But the experience of ornithologists have shown us that in systematic zoölogy and in zoögeography, this means is one absolutely essential to any end of importance. A system of nomenclature based on common fairness and common sense, and stable, because above the reach of individual whim or choice, is as necessary to success in this kind of work as a sharp scalpel is to good work in anatomy.

So long as no rules superior to the caprice of the individual or the tradition of some museum are recognized, so long is systematic work a mere burlesque, and our schemes of classification anything but a mirror of nature.

But besides the positive advances made by the ornithologists, from which others may profit when the time comes, there is something for us to learn from the results of their less fortunate experiments.

An illustration of this may be taken from the last Check-list of Dr. Coues. This work is in many respects most valuable. In it, however, so much learning and labor has been expended in the mending and remodeling of scientific names, as fairly to bring purism in that regard to *reductio ad absurdum*.

Hence the Committee on the new code, with Dr. Coues at its head, now declares that "a name is only a name, and has no necessary meaning," and therefore no necessarily correct orthography. After this experience, the work of strengthening the lame and halting words is hardly likely to be continued in other fields of science.

Another illustration may be drawn from the excessive multiplication of genera, a stage through which ornithology has naturally passed, and which other sciences, profiting from this experience, may possibly be able to avoid.

The work may be considered from three points of view. First, as a 'Check-List,' representing the present aggregate of our knowledge of North American birds. In this regard, the work seems to the present writer to be altogether admirable, and to leave no ground whatever for adverse criticism.

The 'Code' may be considered first in its adaption to the needs of ornithology. In this respect there is little to criticise. The fact that the

ornithologists have been able to agree upon it, and that they have applied it in detail to the production of a check-list, would show that for them the rules are good and sufficient. There are, in the 'Code,' a few traces of compromise; cases in which the sharpness of some positive ruling is somewhat blunted by exceptions. Some of these doubtless arise from difference of opinion among ornithologists, and others probably from peculiarities in the literature of ornithology. But whether these modifications be unavoidable or not, it must be remembered that no compromise will be binding on future authors, and exceptions, not inherent in the nature of the case, will be more and more ignored.

A serious difficulty with all preceding codes of nomenclature, has been a lack of explicitness in dealing with details. It has been hoped by zoölogists generally, that in this 'Code' all the important difficulties would be fairly met and disposed of in ways which could be followed in other sciences. In other words, we have hoped that this 'Code' would be one for zoölogists and botanists generally and not solely for ornithologists. That such a hope was in the minds of the committee also is evident from the care with which they have worked over and considered all previous codes, as well as from their own explicit statement (page 11): "These rules were considered in their bearing upon Zoölogy at large, as well as upon Ornithology alone; it being obvious that sound principles of nomenclature should be susceptible of general application."

From this broad standpoint, then, should the 'Code' be judged, and any rules or provisions based on compromise of opinions, as well as any arising from special peculiarities of ornithological literature, must be regarded as blemishes on the 'Code.'

Speaking only for himself and for his special line of work, the present writer wishes to express his great satisfaction with the 'Code.' In all its essential features, the 'Code' must commend itself at once to those who have made questions of nomenclature the subject of serious thought, and its rules for the most part need only formulation to secure adoption.

Where so much has been done and so admirably done, any word of criticism is thankless. A few points, however, occur to the writer, viewing this code of rules from the standpoint of his own experience.

The first of these is in regard to the Canon XVII, in so far as this applies to different names given in the same work to the same group.

This Canon reads as follows:

"CANON XVII. Preference between competitive specific names published simultaneously in the same work, or in two works of the same actual or ostensible date (no exact date being ascertainable), is to be decided as follows:—

"1. Of names the equal pertinency of which may be in question, preference shall be given to that which is open to least doubt.

"2. Of names of undoubtedly equal pertinency, (*a*) that founded upon the male is to be preferred to that founded upon the female, (*b*) that founded upon the adult to that on the young, and (*c*) that founded on the nuptial condition to that of the pre- or post-nuptial conditions.

"3. Of names of undoubtedly equal pertinency, and founded upon the same condition of sex, age, or season, that is to be preferred which stands first in the book."

It is certain that clauses 1 and 2 are based on special peculiarities of ornithology rather than on the general needs of zoölogy.

The question of equal pertinency of descriptions is very often a subjective one, and this rule gives room to individual judgment or caprice, which it is the business of the 'Code' to eliminate. As to clause 2, we may notice that in most groups of animals, as in the fishes for example, we cannot discriminate in any such way between males, females, and young, and between the various nuptial and non-nuptial conditions. The clause is evidently for ornithologists alone, and by other naturalists it must be disregarded. Of synonymous names which admit of positive identification, and which are printed in the same book, we shall doubtless continue to use the name which stands first upon the page, without regard to other considerations. I believe that the law of primogeniture is made to apply in the case of twins. The chief aim of the law of priority, like that of the law of primogeniture, is not justice but fixity. The present Canon XVII certainly will not secure fixity. The same remarks apply also to Canon XVIII, in regard to synchronous generic names.

In the cases of Canons XXI and XXIII, some important matters are left a little obscure. It is not stated to what degree, if any, we may be allowed to select the type of a comprehensive genus by (metaphorically) questioning its author as to which species he would have regarded as typical. Nor is it clear whether the results of the application of Canon XXI (the earliest restriction of a genus held to be valid) could be set aside either by the application of the process of elimination (Canon XXIII), or on account of the supposed views of the author of the genus. My own idea is that Canon XXI should be regarded as of superior validity, in case of difference of result being reached by these three processes.

The 'Code' agrees with all others in the rejection of *nomina nuda*, but it differs from some others in regarding a 'typonym' as something more than a bare name, and as therefore worthy of recognition.

In this regard the 'Code' is, justly or not, most likely to receive criticism from workers in other fields. Most other departments of zoölogy have but little to do with 'new genera' defined solely by the specification of a typical species.

These 'typonyms' have been generally discarded as the useless product of lazy or 'literary' naturalists, on the general ground formulated by Professor Cope, that "science is science and not literature," and that its names are meaningless, except as "handles to facts." It is, however, apparently the general feeling of ornithologists that names of this sort are too firmly fixed in their science to be now set aside. The Committee on the 'Code' goes so far as to say (p. 52) that "the mere mention of a type has been found to be often a better index to an author's meaning than is frequently a diagnosis or even a long description."

This may be true; but it is equivalent to saying that if a certain author

will tell us what he is talking about, we can form a better idea of his meaning than we shall have if we listen to his statements. Possibly the line must be drawn somewhere between the 'typonym' and the *nomen nudum*, but it is a pity that science should be obliged to notice either.

Canons XLIV and XLV, requiring absolute identification to secure priority, will offer some difficulties in practice, and it is in this regard that most fluctuations in nomenclature in the future are likely to occur. Absolute identification is often difficult among birds, and in more obscure groups it becomes less and less easy of attainment.

With these slight exceptions, the rules of the 'Code' seem to the present writer above cavil, and they fill the needs of other naturalists quite as well as they do those of ornithologists. With the possible exceptions of Canons XVII and XVIII, which do not seem to him wise, and which in fact he cannot use at all, the entire 'Code' will certainly be adopted by workers in ichthyology. I hope and believe that other branches of science will find these rules equally satisfactory, and that this may soon become in all important respects the Code of nomenclature for zoölogy and botany as well as for American ornithology.—DAVID S. JORDAN.

[The preceding review being confined mainly to a critical notice of the 'Code,' the following descriptive remarks are added respecting the 'Check-List.'

The A. O. U. 'Check-List,' compared with previous check-lists of North American birds, presents several distinctive peculiarities, the first of which is the order of arrangement adopted, the present list beginning with the 'lowest' or 'most specialized' forms and ending with the 'highest' or 'most generalized.' This, however, is in accordance with a sound and well-approved principle of classification, which has been for a considerable period carried into effect in other departments of zoölogy, and needs no defense or further explanation.

The second distinctive feature is the introduction of the names of all the higher groups, making the list a classified one, giving due prominence to the various 'rounds of the ladder' in systematic ornithology, from subspecies to 'orders.' Aside from the inverted order of arrangement, there are few departures from the systems of late in vogue in the standard works on North American ornithology.

A third distinctive feature is the introduction of references to the works where the genera, species, and subspecies were first named, and to the works where the names of the species and subspecies as here adopted were first used.

A fourth innovation is the introduction of a brief statement of the geographical range, or 'habitat,' of the species and subspecies, with special reference to their distribution in North America.

The geographical scope of the list is North America north of Mexico, and Greenland, and the peninsula of Lower California, with its dependent islands. This gives a 'hard and fast' geographical line, thus rendering it possible to decide the propriety of including any given species in the list,

on the basis of its actual capture within the prescribed limits. A natural faunal boundary would have been preferable could such have been defined, but with our present imperfect knowledge of the ornithology of the region south of the United States, the adoption of such a line is for the present impracticable—in fact, simply impossible.

Compared with former lists, in respect to the nomenclature adopted, the reduction in the number of genera, and the recognition of subgenera, are features of note. Other changes result from the strict enforcement of the law of priority, in respect not only to genera and species, but also to subspecies. As an outcome of this, many radical changes necessarily resulted. The English names, in some cases, are also changed, through an effort to adopt the most suitable, all things considered; and in the interest of brevity and simplicity only one name is in any case given for a species or subspecies, alternative names being omitted. The concordance of previous check-lists, however, gives a ready clue to either the scientific or vernacular names of any form as designated in each of the four preceding lists.

In the A. O. U. 'Check-List' 768 species are recognized, *plus* 183 subspecies, against 764 species and 160 subspecies in Mr. Ridgway's list of 1880, or a total of 951 names in the former against 924 in the latter, and 888 in Dr. Coues's list of 1882. This gives an apparent increase over Mr. Ridgway's list of 4 species and 27 subspecies (= 31); but the actual increase is 29 species and 45 subspecies (= 74).* In reality, however, some 50 names were eliminated and nearly 80 added. The changes introduced in the names themselves, including the many generic changes, probably affect about one-third of the specific and subspecific names. Twenty-six species and subspecies, not satisfactorily established as North American birds, though previously included in one or more of the earlier check-lists, are removed to a supplementary 'Hypothetical List,' being thus held in abeyance for further information respecting them. A list of the fossil species of North American birds, and a full index, closes the work, of which the 'Code' occupies pp. 1-69, the 'Check-List' proper, pp. 71-347, the 'Hypothetical List,' pp. 349-357, the list of 'Fossil Birds of North America,' pp. 359-367, and the Index, pp. 369-392.—J. A. A.]

Madarász's 'Zeitschrift für Ornithologie.'—The latest numbers of the 'Zeitschrift für die gesammte Ornithologie,' edited at Budapest by Dr. Julius von Madarász, have recently come to hand. Part IV of 1885 contains the first of a series of memoirs by O. Finsch and A. B. Meyer on birds from New Guinea, especially from the Alpine region on the southeastern slope of the Owen Stanley Range. It treats of the Birds of Paradise (19 species), of which not less than 6 new ones are described, among them types of two new genera, *Astrarchia* and *Paradisornis*, besides the

*The increase over Dr. Coues's list is much greater, in consequence mainly of the addition of the peninsula of Lower California and its dependent islands to the area covered by the new list.